



THE UNIVERSITY *of* EDINBURGH

Title	Medical work and prevailing diseases in a destroyer flotilla
Author	Kerr, James Henry
Qualification	MD
Year	1919

Thesis scanned from best copy available: may contain faint or blurred text, and/or cropped or missing pages.

Digitisation Notes:

- Cropped pages on the right hand side in original manuscript. Few pages may have missing letters or characters
- Page 4 skipping in original numeration
- Page 15 repeats in original numeration

h. D. 1919 -

MEDICAL WORK and PREVAILING DISEASES
IN A DESTROYER FLOTILLA.

- - - - -

T H E S I S
For M.D. Examination

by

James Henry Kerr. M.B. Ch.B.

Late Temporary Surgeon Lieutenant, Royal Navy.

- - - - -



I N D E X.

	Page.
(1) Introduction.....	1
(2) Flotilla Organisation.....	1
(3) Sick Accommodation in Flotilla Leaders.....	3
(4) Medical Stores.....	5
(5) Destroyer Sanitation.....	5
(6) " Ventilation.....	8
(7) Water Supply.....	9
(8) Food.....	10
(9) Daily Routine.....	10
(10) Climatology.....	11
(11) Medical Inspection of Ships Companies and Preventive Medicine.....	12
(12) Consideration of Diseases encountered with report of cases.....	18
of cases	
(1) Influenza- H.M.S. Anzac & H.M.S. Valkyrie	18
(2) Syphilis, with discussion of preventive	26
(3) Appendicitis - 3 cases.....	27
(4) Cardiac Diseases - 3 cases.....	30
(5) Pulmonary Tuberculosis.....	35
(6) Spastic Paraplegia - with discussion. on Etiology.....	37
(7) Bronchitis.....	41
(8) Tonsillitis - 2 cases.....	43
(9) Urticaria & Urticaria Papulosa.....	45
(10) Dyspepsia & Dilatatio Ventriculi.....	48
(11) Neurasthenia.....	50
(12) Dermatitis - due to Sunburn.....	52
(13) (13) Medical Experience Gained, and Naval Medical Education.....	53
(14) (14) Summary.....	57.

The aim of this monograph is to show the conditions under which a Medical Officer of Destroyers had to work and to make a few suggestions of improvements whereby his work in War or Peace might be facilitated and rendered more effective. Illustrative cases of Medical interest will be described.

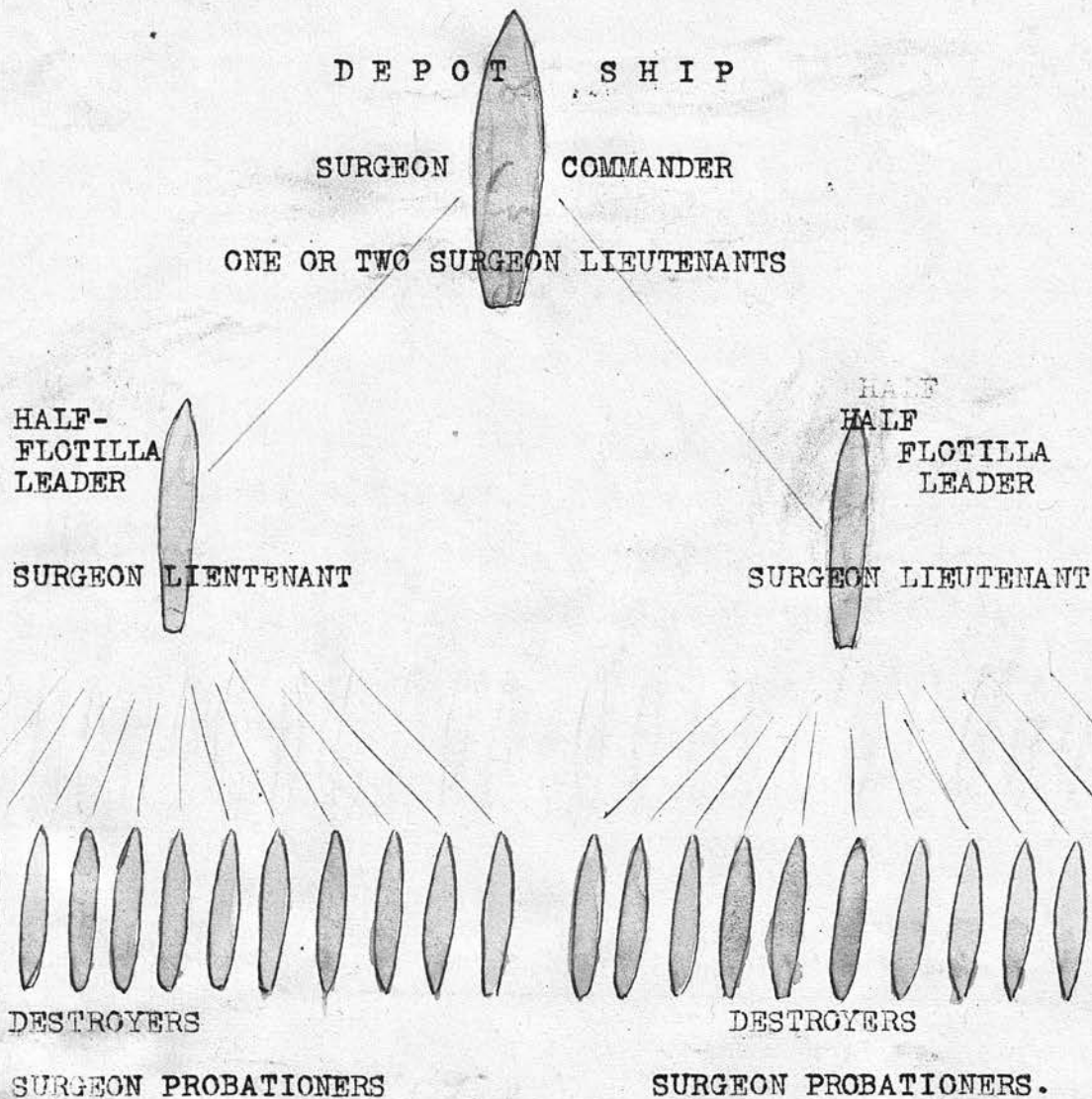
The data are taken from my Naval " Medical Officers Journals" which the Medical Director General of the Navy has kindly returned to me at my request for the purpose of writing this paper.

Flotilla Organisation.

Each Flotilla consists as a rule of two half-Flotilla Leaders and from sixteen to twenty-eight destroyers proper.

Leaders and half Leaders ^{during the war} carried

Temporary Surgeon Lieutenants while most Destroyers bore a Surgeon Probationer. Besides the sea-going ships, each Flotilla had a Depot Ship which carried a Surgeon Commander and one or two Surgeon Lieutenants. The Depot Ship remained at the port where the Flotilla was based. Flotilla Organisation may thus be expressed diagrammatically:-



F L O T I L L A M E D I C A L O R G A N I S A T I O N

Diagrammatically represented.

In port most medical cases from Destroyers are sent to the Depot Ship. The leaders send cases which cannot be treated on board to the nearest Royal Naval Hospital. On detached stations where there is no Hospital at hand, serious cases are discharged as early as possible to larger craft. e.g. Battleships.

Sick Accommodation in Flotilla Leaders.

Some classes of Flotilla Leader have a sick bay. This is a compartment about 6 ft. by 12 below the fore bridge on the starboard side. It contains one swinging cot.

In some Flotilla Leaders - some, I regret to say of the most recent construction - there is no sick bay provided at all. I had an experience of this in my last ship H.M.S. Stuart. I quote from my report to the Admiralty on this subject " There is one distinct drawback and a severe handicap to a Medical Officer in a Ship which is frequently detached with Destroyers at distant Stations (At the time of writing we were at the Military post of El Sollum, Western Egyptian Desert) no space is available for seeing the sick except the Medical Officers Cabin. All cases have to be attended to there, bloods taken for Wassermann Test, small surgical tasks done, and Venereal cases interviewed. The Surgical instruments and part of the Medical stores have to be kept there. "

The remainder of the Medical stores had in this ship to be kept in the " tiller flat" or steering compartment which was somewhat damp, and where they were only with difficulty accessible.

MEDICAL STORES. These are kept in the sick Bay. The Surgical chest contains an excellent selection of instruments, but the means of sterilising them provided is a small spirit steriliser. I would suggest the addition of a large steriliser, big enough to sterilise operating gowns in addition to instruments. No rubber gloves are supplied to Destroyer Leaders although instruments such as trephine and tracheotomy tubes are provided for

The drugs supplied are not of an extensive variety, but as sick men are expected to be discharged to Hospital as early as possible, this is justifiable - likewise the accommodation provided which is cramped, but could not be larger except at the expense of the fighting efficiency of the Ship.

DESTROYER AND SANITATION .

Every Ship has its " Captain of the Heads." This is a petty officer or man whose duty it is to see that all "heads" (or water closets) are in order. There must be an adequate supply of water for flushing the basins. The compartments must be clean and paper provided. All heads are inspected daily by the First Lieutenant, and weekly by the Captain and Medical Officer. The result of this stringent inspection is that the W.C's are practically always in an excellent state of cleanliness.

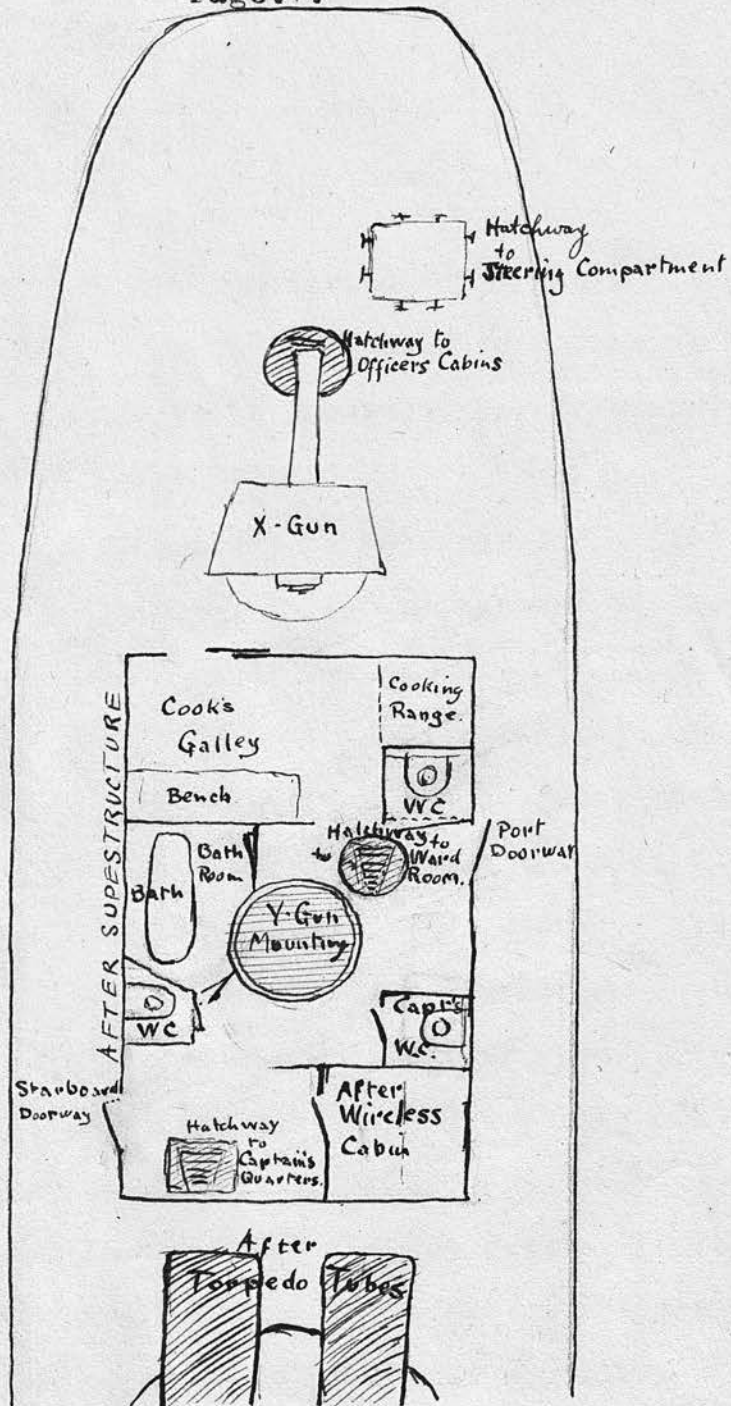
In cold weather the tank on the after superstructure which flushes the officer's "heads" is liable to freeze, and I have seen this tank put out of action by consequent bursting as in "Valkyrie" in the Baltic in December, 1918. This tank might be more protected from frost.

In H.M.S. Valkyrie the arrangement of the officers W.C.'s was peculiar. It is illustrated in the diagram on page 7.

STARBOARD SIDE: The after W.C. on the port side was separated from the range in the galley (Military-cookhouse) by a $\frac{1}{2}$ steel bulkhead (= partition). This rendered ^{it} to say the least, rather warm. In the starboard W.C. the asymmetry of the compartment detracted from comfort.

It was interesting to note the varying popularity of these "heads" with the ward-room mess. A stifling June in Chatam^h dock-yard made it impossible to enter B. whereas in the Gulfs of Finland and Riga in December and January it was universally voted "the warmest place in the Ship" and as such was much patronised.

The daily inspections are also directed to general cleanliness. The mess decks are thus kept in good condition in spite of the very cramped space in which the men have to live. The men sleep in hammocks to suspend which, hooks are provided in the stanchions and struts of the mess decks. So close have hammocks to be slung that an occupant can hardly



Plan of After Part of Main Deck H.M.S. Valkyrie. (Rough plan.)

swing in his Hammock without colliding with his neighbour. Given that the height of the mess deck from Deck to Deck is about eight or nine feet the necessity for free ventilation will be obvious.

VENTILATION. There seems to be a popular belief in the Sailor being a fine strong healthy fellow on account of the abundance of the fine " sea air " which he breathes.

This is a ridiculous fallacy. In all ships at sea, especially fighting ships, and of these more especially the small craft, the sailors breathe air which is far less pure than that of most illventilated closed, windowed houses ashore.

In fighting ships, including destroyers, the mess decks are ventilated by (1) scuttles, (2) overhead ventilators (3) " potted" air.....(1) Scuttles - These are the ordinary port holes. They can be left open in harbour and at sea in fine weather. In the North Sea in destroyer craft they have almost invariably to be closed. In War conditions all scuttles must be closed at sea.....(2)Overhead Ventilators - The cowls of these are removed and the ventilators closed at sea. The seas wash all over a destroyer. (3)"Potted air".... This is the Naval colloquialism for air driven by an Electric Fan through air shafts to the various mess decks. The fan drives fresh outside air into a main shaft from which branch off, tree-like, smaller offshoots to the various compartments. This is good

when in use but even when going continuously in a crowded mess deck with scuttles shut, it does not quite remove the sense of sweaty humanity and the clinging odour of the last meal.

Moreover it is not very popular and is apt to be too little used especially in cold weather and at sea.

That the "potted air" mechanism is a valuable asset in disinfection will be shown under Influenza.

WATER SUPPLY The water supply of a Flotilla Leader is usually made on board by distillation. Occasionally it is obtained by Naval supply reservoirs ashore, but this is the exception rather than the rule. Thus we have in most cases a perfectly pure water supply to begin with. This is stored in Tanks built into the Ships. There are various Tanks in different parts so that the loss of one in action will not cripple the Ship. The drinking and cooking supply Tanks are inspected at intervals by the Medical Officer. They are enamelled inside with a special anti-fouling non-toxic preparation. They are well removed from W.C's and from risk of other contamination. The water supply arrangements are thus excellent. They are seldom known to fail. When this does happen it is usually the result of a condenser leak - an engine-room malady known throughout the destroyer service as "condenseritis" - a popular disease in War time, in that it

means return from patrol and a few days repairs in Harbour.

FOOD The food supply requires little of note. Risk of scurvy which was such a scourge in the Navy of Nelson is now nil. Once only in the course of the ^hree commissions upon which I base this account, have I seen the Crew on salt rations for more than a few days. I have ~~seen~~ a few cases of urticaria, but could not trace them to faulty food. This disease however, is more one of individual idiosyncrasy to one article of diet. Neither could cases of gastroenteritis, numerous in H.M.S. Stuart (Mediterranean Cruise) be attributed to faulty rations, but rather to indiscretions of diet ashore.

DAILY ROUTINE. The daily routine of the Medical Officer was - 9.0 a.m. Cases seen at sick Bay and prescribed for and attended to. Rest of forenoon occupied by reports.

5.0 p.m. Visit to cases in sick Bay if any. On Sundays in addition, there was :-

9.45 a.m Divisions (Parade) and inspection of Ship with Commanding Officer.

The Medical Officer also as a rule was Censor of correspondence and a decoding Officer for signals in code or cypher. The latter was an occupation of great interest.

CLIMATOLOGY.

The Flotilla leader is an adaptable craft.

In H.M.S. Anzac and Valkyrie I served in the North Sea, and Atlantic from Chatam and Sheerness, north to the Kattegat, and west beyond Lewis. In the Valkyrie we also entered the Baltic and spent two months there, going as far as Narva in the Gulf of Finland where we bombarded Bolshevick Shore Forces. In H.M.S. Stuart we came in contact with the Bolshevics in the Crimea, and visited Smyrna, Greece, Egypt and Malta, Constantinople, Mudros, etc.

In the Gulf of Riga, H.M.S. Valkyrie was breaking the ice as she steamed along with a temperature bordering on Zero F. while at Malta the Summer Heat between decks in the Stuart required to be felt to be really appreciated.

At Libau on Dec. 10th. 1918. I posted the following warning:-

Prevention of Frost Bite.

Frost bite affects chiefly the toes and fingers, the ears and the nose. The first symptom is numbness in the part, tingling and finally complete loss of sensation. The part affected becomes white and bleached looking and feels icy cold.

To prevent the occurrence of frost

bite it is necessary to avoid the sudden application of heat. The part should be rubbed lightly until it becomes red again, with snow if available.

Cases which do not recover immediately with such treatment, are to be reported at once to the Sick Bay."

Eighty of the ships company- upper deck officers and ratings, were issued with sheepskin or reindeer-lined coats, and fleeced lined gloves, Warm underwear, balaclava helmets, stockings, jerseys, cardigan jackets, comforters and mittens, were also issued.

In the Mediterranean H.M.S. Stuart had awnings, and the men wore helmets and were warned against having a bare head. Cases of severe sunburn were seen, but none of sunstroke.

Medical Inspection of Ships' Companies,
and Preventive Medicine.

It was part of my duties as Half Flotilla Medical Officer to carry out a medical inspection of one ship of the Flotilla weekly, this included :-
(1) Medical Inspection of Ship's Company.

- (2) Lecture on Hygiene.
- (3) Inspection of Stores.

(1) Medical Inspection of Ship's Company.

This was directed mainly towards discovering parasites, skin diseases, and venereal disease. Officers and petty officers were excused inspection, these being trusted to report themselves to the Medical Officer if requiring medical attention. The men filed past the examining Medical Officer slowly, stripped to the waist and lowering the nether garments to the thighs in passing, hence the name "Belly-muster" which the sailors apply to a medical inspection. Cases of disease discovered were carefully interrogated and gross cases of carelessness or neglect of venereal or similar contagious disease were reported to the Commanding Officer, concealment of disease being a punishable offence.

Flat chests were examined and emaciated cases enquired into, By this means cases of Tuberculosis were found.

All men were individually asked if they felt well.

All negative answers were enquired into, & subsequently the Surgeon Probationer of the ship who was present, was guided in the matter of treatment.

(2) Lecture on Hygiene.

This for the most part was directed to warning the men against the dangers of venereal disease. During influenza epidemics a few words were added to the lecture with a view to inhibiting the spread of the disease, This subject will be dealt with under the heading of "Influenza."

I always gave my short lecture after the Medical Inspection, and think that this is a point of some value, because at the inspection each man is brought into personal contact with the inspecting Medical Officer, and whether he is ill or well, he is made to feel that interest is being taken ^{in him} as an individual, and the result is that he listens more attentively to what the Medical Officer has to say in his lecture.

The lecture must be very simple and is best also to be made brief. I think it is wise not to refer to notes, as I have observed that this is apt to detract from the faith of the sailor in the speaker, and it is of paramount importance that he should carry conviction. One has to carry weight in ante-venereal propaganda as much as in political speaking if one is to hope for success.

With these points in view I prepared a lecture which I gave at all inspections. It ran as follows :-

" I want to say a few words to you men to day about venereal diseases. These diseases are on the increase and it is for us to see that we do not help them to increase by being infected ourselves.

There are two ways of avoiding venereal disease:-

(1.) Avoiding having anything to do with loose women. This the best and the only certain prevention.

(2%) The proper use of the "Preventive Package" or "Dreadnought" supplied by the Service. "Dreadnoughts" can be had at any time from the Cox'un or Sick Berth Attendant." ----Then followed explanation of "Dreadnought " and how to use it: Continuing :-

& There are are two main kinds of venereal disease, Syphilis and Gonorrhoea.

Gonorrhoea. This is a disease of the pipe. One gets a discharge but even if that is cured one may suffer afterwards from disease of the testicles and stoppage of the water.

Syphilis. This disease does not consist merely of a sore on the penis on which one puts a dressing and which is quite cured in a week or two. It is a disease of the whole body. If it is not properly attended to there follow sores and ulcers all over the body, rotting of the bones, terrible pains, paralysis, blindness, and even insanity. One awful result is that ones children are likely to be born dead or syphilitic. If they live they grow up stunted , deformed, mentally deficient , and possibly blind

" Venereal disease is a great cause of lowering of the birth rate and the efficiency of the nation.

So you see that venereal disease is a terrible scourge and it is our duty to the State as well as to ourselves to see that we do not get it; and if we do get it , to report it at once to the doctor in order that its progress may be stopped before it gets a hold on us and ruins us."

The preventive outfit , appropriately known in the Service as a "Dreadnought", may conveniently be described here.

It consists of two small tubes of tooth-paste type, one of which has a nozzle for entering the urethra. One contains calomel cream, the other (with the nozzle) nargol jelly. The calome is rubbed into the penis and the nargol jelly injected into the urethra. The outfit ought to be used immediately after the risk of infection has been incurred.

When men report with venereal disease I have always inquired regarding preventive measures employed. I find that in the Service few of the infected men have used the outfit. Of these few most have used it twelve hours or more after intercourse. In no case have I found syphilis or gonorrhoea in a case where the outfit has been used within three hours. Thus the "Dreadnought" is a very effective, although possibly not an infallible protection,

It is held by a Naval observer that a dilute solution of

potassium permanganate is more efficient.

(3) Inspection of Medical Stores.

At medical inspections of destroyers, the destroyers medical stores were gone over and checked with the Surgeon Probationer in charge.

CONSIDERATION OF DISEASES ENCOUNTERED, WITH REPORTS OF CASES

(1) INFLUENZA. This disease bulks more hugely in my statistics than any other. I encountered it in the Spring and Autumn Epidemics of 1918, on both occasions in Destroyers. In the Autumn Epidemic my observations were marred by my taking the infection myself which necessitated three weeks in H.M. Hospital Ship "Agadir" at Scapapelow.

With regard to the Spring Epidemic I quote from my notes made on board H.M.S. Anzac.

" Influenza .This was by far the most prevalent disease during the period. An epidemic broke out in the Grand Fleet and spread from ship to ship until several were affected.

On May 6th. Leading Seaman W.C. reported sick in H.M.S. Anzac complaining of headache and pain in back and cough. Recovery was complete in 48 hours, and the man returned to duty. On account of the mildness of the symptoms and the rapid recovery, this case was not assumed at the time to be one of influenza, but the patient was nevertheless isolated from the time of reporting sick as a precautionary measure in view of the current epidemic.

The first indubitable case of Influenza which occurred in this ship during the epidemic was that of Able Seaman J.D. who reported sick on May 9th the day after Leading Seaman W.C. had returned to duty. This suggested

Leading Seaman

infection from W.C. but this possibility was discounted by the statement of the patient that he had been ill for 36 hours before reporting sick -i.e. since the evening before the previous case had been removed from isolation in the Sick Bay and had returned to duty.

PREVENTIVE MEASURES employed during Epidemic:-

The fact of an infectious patient reporting sick 36 hours after he had begun to feel ill raised an important point. The most thorough isolation of cases is obviously destined to be futile if the cases are only secured when they are already half way through the illness. To counteract this danger a notice was posted in the mess deck signed by the Captain and myself warning all ratings to report sick as soon as they felt ill in order to curtail as far as possible, the Epidemic which was prevalent. As a result of this subsequent cases were isolated and treated at an earlier stage and infection was thus curbed and the patients were sooner fit to return to duty.

All contacts of infected men were provided with potassium permanganate gargle and instructed to use it twice a day. The sick Bay stewards gargled thrice a day and took Quinine sulph grs. 2 ter in die.

Isolation of cases became difficult when larger numbers than the Sick Bay would accommodate came en masses to report sick. It was found possible to accommodate seven cases in the Sick Bay, and when this overflowed by cases reporting at night, the excess of cases were put in the tiller flat. The scuttles of this compartment were opened and the air was warmed by a yard arm group(bunch of electric lights.) It was necessary on only one occasion to make use of this compartment.

When cases reported at sea and it was impossible to house them all in the Sick Bay, ^a the screen was rigged outside the Sick Bay, shutting off a small area wherein the most recovered patients slung in hammocks. One mess deck door was closed to prevent thoroughfare through this area. This proved very convenient in fine weather. Had rough weather supervened, rendering this space of deck uninhabitable for patients, one of the small messes would have been cleared and used as an auxiliary Sick Bay, the tiller flat being of course, uninhabitable at sea. Fortunately this measure was not necessary.

Such means of isolation were not taken in harbour where, when cases could not be very efficiently isolated, they were sent to Hospital or Hospital Ship immediately.

SEAMEN'S MESS DECK.

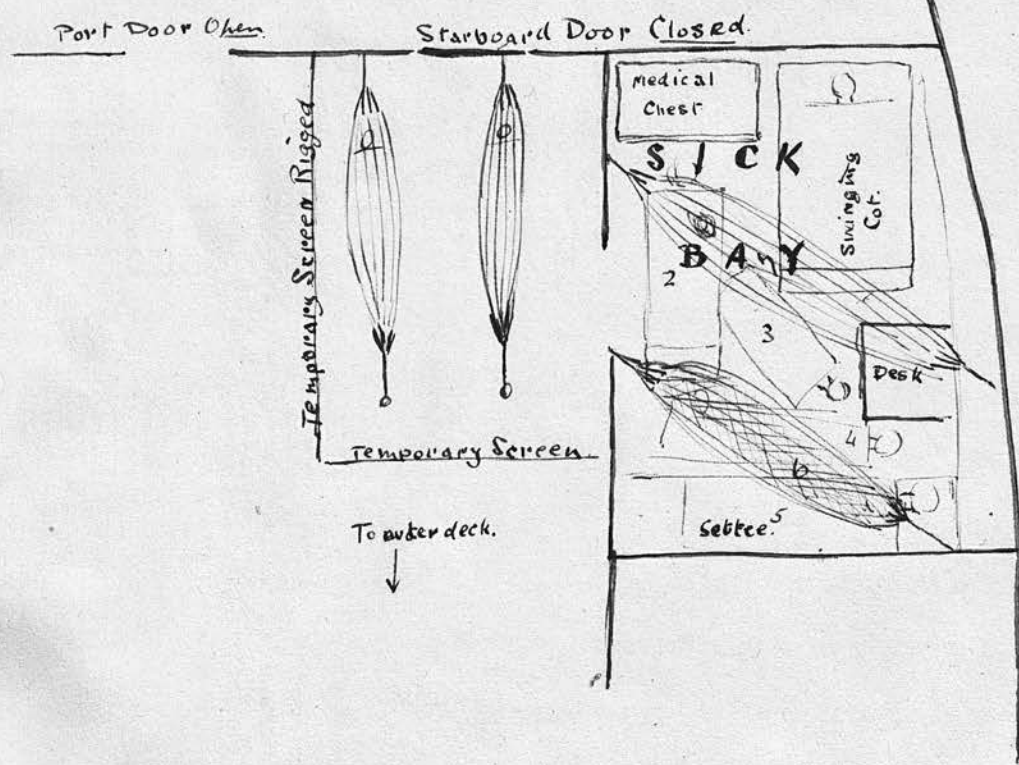


Diagram illustrating

ISOLATION OF INFLUENZA CASES AT SEA IN H.M.S. "ANZAC"
during Spring Epidemic, 1918.

Note in Sick Bay :- 1 case in cot, 1 case on settee, and
3 cases on floor. 2 cases are slung overhead
in hammocks. The temporary screen was s
sprinkled with formalin.

Thus to summarize, the preventive measures were:-

(1) Isolation of cases.

(2) Warning to patients to report immediately on feeling ill

(3) Antiseptic gargles for contacts.

(4) Restricted quarantine - The ship was put in restricted quarantine on May 11th, when there were five cases on board.

The ship was not at any time in strict quarantine.

(5) Disinfection of mess decks.

TYPE OF INFLUENZA The type of illness was Influenza Simplex., the symptoms being those of a sharp fever without any local features beyond those which ordinarily accompany pyrexia. Headache and pain in the back was a constant feature. Several had sore throats. Only in a small minority were there symptoms relating to one particular system. Three cases had vomiting and loss of appetite, but no other sign or symptom of abdominal complication, and the gastric disturbance was very brief. Several had coughs, but in none were there found physical signs indicating marked respiratory trouble. Rhonchi were frequent, and disappeared in most instances with, or shortly after the fever. Only in one case were there respirations as rapid even as 28 per minute.

CLASS MOST AFFECTED BY EPIDEMIC :-

The following table indicates the distribution of the 29 cases of Influenza which occurred during this Epidemic in H.M.S. Anzac:-

Officers	No cases	-	0%
Seamen	17		60%
Stokers	9		30%
Other Ratings	3		10%
Total	29 Cases		100%

H.M.S. VALKYRIE AUTUMN
EPIDEMIC

Apart from two cases at the beginning of the commission, the Influenza Epidemic held a brief sway in the ship. It began on October 13h. and ended on November 6th.

No cases had any serious complication, and there were no deaths either on board or in Hospital. The type of Influenza was however, much more severe than in the Spring Epidemic, and convalescence of all cases was slow.

I have observed nothing to justify the suggestion that the Epidemic in question was one of trichiniasis. I am of the opinion that it was a virulent Influenza. All cases were discharged as soon as possible to Hospital and little treatment beyond purgation was employed on board.

The preventive measures employed were:-

(1) Daily throat spray of ships' Company with 1% solution of Zinci Sulphas during Epidemic.

(2) Isolation of Cases.

(3) Disinfection of mess decks with formalin each time a case occurred. This was done by putting cotton waste sprinkled thoroughly with 20% formaldehyde at all openings of the " potted air " ventilating shaft and then starting the fan. This was continued for one hour in all messes and fortwo hours in the mess from which the case had come.

(4) Inⁿoculation of volunteers with prophylactic fluid.

(5) Quarantine - The ship was put in restricted quarantine for a time during my absence in " Agadir."

CLASS MOST AFFECTED BY EPDEMIC ;)

The following table indicates the distribution of the 24 cases of Influenza which occurred during this Epidemic in H.M.S. Valkyrie:-

Officers	No 5 cases	-	21%.
Seamen	13		53%
Stokers	5		21%
Other Ratings	1		5%
Total	24 cases		100%

SUMMARY OF INFLUENZA.

The class of men affected show that open air occupation of Seamen as contrasted with Engine room and Stokehold Ratings did not improve their statistics. Possibly Engine room fumes acted as disinfectant to the air passages, Oil, fuel is burned in all modern destroyer craft.

(2) Syphilis

W. C. aet 27.

Petty Officer Telegraphist.

This man reported on August 10th¹⁹¹⁸ with an ulcer on his right wrist. It was deep and had a punched out appearance and improved with mercurial treatment. There was a history^{of syphilis} contracted in 1917. A slough separated from the ulcer.

Wassermann August 29th was found to be positive .

Mercurial Cream was injected into the buttock on Sept 1st and Sept 8th On 15th patient was put on Pot. Iodid. Ulcer then showed more rapid improvement and healed slowly.

Various dressings were employed, black wash, boric ointment, iodoform ,etc. Pot. Iodid was stopped on Sept. 30th and Hydrarg cum cret. gr. 1 t. d. s. commenced. This was stopped on Dec. 1st. Swelling of right tonsil was observed on that date. Pot. Iodid was recommenced. This swelling, evidently a gumma, broke down into a deep ulcer which was filled with "Wash-leather slough." Various gargles were used but most improvement was obtained by local application of a Silver Nitrate point. There is now no clinical evidence of syphilis except the scars of these ulcers.

(3) APPENDICITIS .

E. C. aet 26,

Able Seaman.

This man reported at the Sick Bay on the morning of the August 24th. complaining of " pain in the right side " of 36 hours duration. The onset was sudden, pain coming on while patient was at the wheel of which duty he had to be relieved. He felt sick that morning, but did not vomit. Bowels had moved well the previous day without pain. There was no pain with micturition. Temperature was normal and pulse 74.

Patient states he had a similar attack last May, when survey for chronic Appendicitis was suggested at Devonport, but did not take place. Medical History Sheet shows a diagnosis of " colic " for that period. Examination of the abdomen showed no local or general fulness. The abdomen moved little with respiration, movement being especially restricted in the lower half. Both recti were rigid the right more or so than the left. Tenderness to palpation was present in right iliac fossa, being especially marked over McBurney's point. There was tenderness also to percussion in this area. Slight tenderness in the right iliac direction was found per rectum. No tumour could be felt in the right iliac fossa, but tenderness was definite and marked. In view of the possible danger to the patient's life in going to sea in his condition, he was discharged to South Queensferry Hospital on the same day with a recommendation that operative

measures be considered.

APPENDICITIS.

J. F. W, aet 28,

Electrical Artificer

This man reported on the 17th. June, complaining of a sharp pain in the right lower abdomen which had been first felt on the previous morning. The pain was worst on movement of the right thigh. The bowels were loose. There was no nausea or vomiting. The appetite was fair. Tongue furred. Temperature 98.4. Impaired respiratory movement in right lower quadrant of abdomen and rigid right rectus. There was tenderness over McBurney's point and a swelling size of closed fist, in right iliac and right lumbar regions. This was dull to percussion. There was no pain on micturition. The patient was immediately discharged to Royal Naval Hospital, Malta.

APPENDICITIS - Retrocaecal.

A.E.L. aet. 27.

Stoker Petty Officer.

This rating reported sick on Sept. 18th giving the following history. He had been constipated for three days and had taken some white mixture the previous evening and his bowels had

then moved.

During those three days he had had abdominal pain located in right lower quadrant of the abdomen.

He felt sick on night of Sept. 16th but did not vomit. The pain prevented sleep.

On examination temperature was found to be normal, and the pulse 76. The tongue was clean. The abdomen moved with respiration, with slight restriction of movement in lower right quadrant of abdomen. The right rectus showed slight rigidity. There was definite tenderness over McBurney's point and a resistant mass was felt in right iliac fossa.

Extension of the thigh made the pain worse. There was no tenderness in the loin. There was no pain on micturition, and nil abnormal was found by rectal examination.

Patient was discharged on same day to Royal Naval Hospital, Granton,
where the appendix was removed.

(4). CARDIAC DISEASES.

S. P. Aet. 39.

Mitral Stenosis.

Ordinary Seaman.

This rating reported at the Sick Bay on July 29th, complaining of feeling weak and shaky, and of pain in head. He gave a history of rheumatic fever twice since 1914, the last time being four months in hospital.

Examination of heart showed the apex beat in the middle line, in fifth left interspace. The right border of heart was two inches to the right of midsternal line; as indicated by deep dulness on percussion, a presystolic thrill was felt at the apex, and a rough short presystolic murmur audible only in the mitral area and not propagated. There were no subjective circulatory phenomena beyond weakness, complained of. The patient was very nervous about himself. Easton's Syrup tablets were prescribed and patient was excused duty with the galley's crew.

There was some improvement during the week which followed;- The appetite was good, and the patient cheerful. His general condition ceased to improve however, and in the interest of the patient, and as his usefulness on board was impaired, he was discharged for treatment to Royal Naval Hospital, South Queensferry, on August 9th.

MITRAL REGURGITATION.

F. H. aet 36,

Ordinary Seaman.

This man reported at the sick Bay on 2nd. August complaining of praecordial pain, and breathlessness and palpitation on exertion. He complained also of "indigestion" and flatulence. On examination, a feeble apex beat was found in the mammary line. Cardiac dulness extended $4\frac{1}{2}$ inches to left and 2 inches to right of mid-sternal line. A mitral systolic murmur was heard in mitral area and was propagated to posterior axillary line; indefinite at angle of scapula. Pulse was 80, regular, of medium amplitude, and well sustained. The patient was put on light duty. On 15th. August patient, who was very subject to sea sickness, was put off duty on account of severe cardiac pain and distress, brought on by sea sickness. He returned to duty the following day..

On 4th. October at sea the patient became very ill, and had to be put off duty in a weak condition with breathlessness, praecordial pain and rapid pulse. He improved during three days off duty but was unable to resumework, complaining of a sharp stabbing pain above the apex and a dull pain behind the sternum. He had breathlessness and palpitation on slight

exertion, and attacks of giddiness. He felt weaker. He had become more pale. His lips were slightly cyanosed. The apex beat was impalpable and the bruit fainter, although still quite definite. There was no appreciable change in cardiac dulness. Crepitations could be heard at right base and apex.

There is a history of heart disease in the patient's family. He has not had rheumatic fever.

Arrangements were being made for discharge from the ship to a more favourable form of service, but on account of the deterioration of the patient's condition, he was discharged to Hospital Ship " Soudan " on 8th. October.

MITRAL STENOSIS AND INFLUENZA.

R. S. F. G. Aet. 28.

Electrical Artificer.

This rating reported at the Sick Bay on August 25th, 1918. complaining of palpitation, and praecordial pain, the latter varied from discomfort to pain of a stabbing character, and became especially marked when patient was sea-sick. The patient suffers much from sea-sickness. Pain and palpitation were induced by exertion. Patient got easily short of breath. He gives a history of rheumatic fever at twelve years of age.

Examination of heart revealed a diffuse powerful apex beat in fifth left interspace, $\frac{1}{2}$ of an inch external to nipple. $4\frac{1}{2}$ inches from midsternal line. A short but definite pre-systolic thrill was felt. The right border of the heart, was found by percussion to be $2\frac{1}{2}$ inches to the right of midsternal line. A short rough presystolic murmur was heard in mitral area, it was not propagated.

It was decided that patient was not fit for service in a ship, where sea-sickness repeatedly caused cardiac distress, and a relief was applied for.

No treatment was employed for the heart, except indirectly by dealing with the habitual constipation, from which patient suffers.

On 27th. September, patient reported sick, complaining of headache, aching limbs, slight sore throat, and slight cough. Temperature was 99.8, pulse 80. Bowels had not moved for two days. Examination of lungs showed nothing abnormal except a few rhonchi in right lung. Patient was given Ol. Ricini loz. and discharged to Royal Naval Hospital "South Queensferry," with a recommendation for subsequent allocation to a larger ship or to employment ashore.

(5). Pulmonary Tuberculosis.

John Aldcroft. aet 32.

Stoker.

This man reported at the Sick Bay on Aug. 2nd.

He complained of cough of three months duration. Patient stated that the sputum was sometimes tinged with blood; and that in 1915 he was troubled with cough for three months and during that time coughed up bright red blood frequently.

Examination of the chest revealed crepitations at the right apex, but no dulness or bronchial breathing. The breath sounds however were faint. The pharynx, uvula, and tonsils were congested. The sputum was scanty and mucopurulent. There was no loss of appetite complained of, but patient was thin, the facies pale and haggard, and he complained that he was losing weight. A gargle of Potassium Chlorate was given and Mist Pectoralis, the latter being replaced by Cl. Morrhuae some days later. The temperature was noted morning and evening, and was observed to be hectic in type as follows:-

August. 19th. 20th. 21st. 22nd. 23rd. 24th. 25th. 26th. 27th. 28th.

Morning. 98.4. 98.4 97.0 97.0 98.0 98.6 98.8 98.6 98.4 98.4

Evening. 99.6 99.2 98.0 97.8 98.0 100.0 98.8 99.2 99.0 -

The cough improved at first, but later became worse again.

The patient complained of weakness, of being easily fatigued and had pain in right infraclavicular region on coughing.

On August 25th he was put on light duty.

Examined on August 21st. chest showed medium crepitations at right apex; none at left apex. No impairment of percussion resonance was detected, breath sounds were somewhat faint at both apices. Vocal fremitus slightly increased at right apex.

Tidal Expansion; Right Lung Base - $1\frac{1}{4}$ inches.

- - Left Lung Base - $1\frac{1}{4}$ inches.

Nil abnormal was found in the circulatory system.

Patient stated that a cousin of his died of chest trouble, and that his brother's children were afflicted with chest trouble.

As this was evidently a case of ^{early} active pulmonary tuberculosis, the patient was discharged to the Royal Naval Hospital

Queensferry, on Aug. 29th.

(16) A CASE OF SPASTIC PARAPLEGIA OF DEBATABLE ORIGIN

H. J, aet 23,

This case was seen in Royal Naval Hospital " Haslar " and is included as being one which a Destroyer Medical Officer in war time might well meet on board his own ship.

This was a Norwegian seaman, whose ship was sunk by shell fire from a German Submarine. I first received him under my care in ward A2, Royal Naval Hospital " Haslar " suffering from a shell wound of the back. A piece of shell had lodged in the sacrospinalis to the left of the 9. 10. & 11 dorsal vertebrae. This splinter had already been removed by operation, and the wound was healing. The patient was well in every way, and was allowed " grounds " daily. He developed Chicken Pox and spent two weeks in the infectious block and was then returned to my ward apparently well and with the wound quite healed, but complaining of weakness in his legs . This became progressively worse. He walked less when in the grounds, and sat down more. On examining him I found that both knee jerks were exaggerated, more especially the left, there was ankle clonus and positive Babinski. There was no impairment of sensation, but occasionally " pins and needles " sensation in both feet. The organic reflexes were normal. The gait was typically spastic in character. The knees were only slightly flexed, the pointed

foot was circumducted but even then it scraped the floor. The adductor spasm rendered the outward swinging of the limb more difficult, and the pelvis was tilted to aid it.

The cremasteric reflex was present. The abdominal reflex was marked. Epigastric reflex did not seem increased. Adductor jerk was marked. Left patellar clonus present. None on right. Both arms were unaffected. The gluteal reflex was vigorous on both sides.

Diagnosis. The diagnosis presented no difficulty. The case was obviously one of a bilateral lesion of the upper motor neurones. The normality of both arms and absence of cerebral symptoms or evidence of cranial nerve involvement pointed to a lesion of the cord in the dorsal region. Sensation was normal, and no pain was complained of, excluding involvement of other tracts.

Etiology. The causation of the condition was difficult to arrive at, bearing in mind the possibility of (1) Syphilis. (2) Chicken Pox, (3) Local Traumatism.

Syphilis. The patient denied having ever had any venereal sore, and the Wassermann was negative.

Chicken Pox The alleged association of varicella with herpes Zoster suggested that the vesicles observed might not have been purely those of Chicken Pox and also that the varicella if it were such might have in this instance affected the upper

motor instead of the lower sensory neurone. The vesicles observed were irregularly distributed over the face and neck (where they were first observed) and on the trunk. They were not grouped or in girdle form, and both sides of the body were equally affected. The development of the eruption was not associated with any pain or tingling. The patient in fact, being unaware of the eruption until I investigated it. The vesicles were small, not more than a quarter of an inch in Diameter, circular, and not closely set. The temperature was below 100.0. Thus there was little resemblance to typical Herpes of nervous origin in the rash itself. This patient however, was moving about in a crowded ward, and it is noteworthy that he infected no-one, no other case occurring.

Local Traumatism. That the local injury was the cause of the paraplegia is perhaps the most probable explanation, but it is difficult to see why only the ~~crossed~~ pyramidal tract was affected. The theory of molecular disturbance of the nervous tissues by the sudden impact is hardly applicable, as this could not have any selective action for individual tracts. Such a disturbance would in any case, be more likely to affect the lower neurones from the vicinity of whose vital cells it would have radiated, the wound being only a couple of inches from the substance of the spinal medulla. The wound did not penetrate the spinal canal, nor were the vertebrae injured. It is therefore

unlikely that a process of fibrosis extending from the area of inflammation round the wound would have reached the cord. Further, there were not at any time any symptoms of spinal meningitis. The possibility of thrombosis or actual rupture of the smaller blood vessels of the cord is also to be considered. I have been unable to find whether the crossed pyramidal tracts have a separate blood supply. Such a discovery would help to explain the case.

The strongest evidence in favour of the local injury being the cause of the cord lesion lies in the fact that a lesion commencing at just that level would account for the symptoms and physical signs actually obtained e.g. lower limb reflexes exaggerated, abdominal increased, but the epigastric reflex which is concerned with the 7th. to 9th, dorsal segments i.e. just above the level of the injury did not seem to be exaggerated.

Treatment Rest and massage were employed. Improvement followed; the spasticity became less, and when my short stay in Hospital terminated with my appointment to another ship, the patient's case sheet was again marked "grounds."

(7) BRONCHITIS.

J. C., aet 27,

Able Seaman.

This man reported sick on 29th. December complaining of sorethroat of twenty-four hours duration, headache, pain in back and left side and loss of appetite. There was no cough. Temperature was 100.0 pulse 96, bowels had not moved that day, in the chest there was no abnormal impairment of percussion resonance. Breath sounds deep toned, bronchial, with numerous fine crepitations. The patient was put to bed and ~~Cl~~ Ricini one ounce was given, and a mixture of Tinct Quinine Ammon. Liq. Ammon. Acet. and Spirit Aether Nitros. was prescribed and milk and soup diet. Evening temperature was 101.0 pulse 100, bowels had moved twice, crepitations were more marked throughout lower lobe of left lung. Hyperresonance to percussion at both bases. Vocal resonance and fremitus not altered. Breathing more bronchial in left lung. Throat slightly inflamed. No cough. Nil abnormal found in circulatory system. Patient was perspiring freely. Respiration 32. On 30th. December, temperature was 100.0 pulse 96, respirations 27. The patient felt better. A small definite patch of slight dulness and bronchial breathing was found at left base. Vocal fremitus and resonance were normal. Crepitations throughout right lung and in left lower lobe, more coarse than previous day.

Cough was now present; ~~fothy~~ mucoid sputum. Throat was more sore and fauces and pharynx were seen to be more injected. A gargle was being used. Evening temperature 100.0 pulse 92, respirations 26. Mucopurulent sputum, slight dulness at both bases. Throat less sore.

On 31st. December, temperature 98.8, pulse 88, respirations 24. Patient felt much better. No impairment of resonance. Breath sounds faint but not bronchial. Some coarse crepitation at bases.

Mixture of Ammon. C arb. and Vin. Ipecac. substituted for previous mixture. and Syr Eastoni prescribed.

Evening temperature was 98.8 pulse 80. Throat was much improved and cough less troublesome.

This case is still under treatment.

(8) TONSILLITIS.

C. R. aet 21,

Able Seaman.

This rating reported sick on 9th. May, complaining of shivering and sore throat. Bowels had not moved that day. Temperature was 100.0, pulse 98. There was no cough, and no pain except in the throat. The right tonsil was very swollen and hyperaemic. There was no exudate or false membrane visible. Right tonsillar lymph gland was enlarged and tender. A mercurial purge; and thrice daily gargle brought about a recovery in 3 days and patient returned to duty.

(8) TONSILLITIS.

T. A. G aet 20.

2

Leading Telegraphist.

This man went sick on the evening of 13th. April. He complained of headache, dizziness, and weakness, and sore throat. Temperature was 102.0, pulse 100. He also complained of slight cough. The pharynx, fauces, soft palate and tonsils were very red, the latter being somewhat enlarged but showing no exudate. The tonsillar lymph gland and the glands over the sternomastoid on both sides were enlarged and tender and matted, giving rise to pain on movement of the neck, and swelling and hyperaemia in the region of the muscular triangle. Nil abnormal was found in the lungs except a few rhonchi in the right lung. Bowels had not moved since the previous day. Calomel grs.3 was administered and Mist. Alb. 1 oz. in the morning. Mist. Sodii Salicyl was given 1oz. thrice daily and Garg. Pot. Chlor. was used thrice daily. Patient was confined to his hammock.

The throat was less sore on the following morning, and the swelling of the neck ~~had~~ decreased. Bowels had moved well. There was no cough or pain in chest. Temperature was 100.8.

On 15th. April temperature was 100.0, pulse 80. Temperature fell slowly. On 17th. it was 99.0, pulse 80, and patient was allowed on deck for a few hours in the afternoon. He was feelin

stronger and appetite was improving. Recovery was complete and patient returned to duty on 19th. April.

(9) URTICARIA .

H. C. aet 19.

Leading Telegraphist.

This man noticed a rash on his forearm and abdomen on the evening of 20th. April. As this was more pronounced next morning he reported sick - 21st. April. On examination, there were observed uniform red patches on flexor aspect right forearm, also a patch the size of a penny over right trapezius muscle, and a large very red area below umbilicus extending from that point to within a short distance of the pubes. The edge of the red areas was slightly raised. The redness faded on pressure. There was no punctuation. There was no sore throat, no nausea or sickness, and no headache. Bowels moved well on 20th, had not moved at 9.a.m on 21st. Pulse 76. Temperature normal. No history of tinned food eaten recently or of any gross error of diet. Patient felt quite well but on account of the remote possibility of this being an atypical scarlet fever rash he was confined to the Sick Bay for observation. The treatment consisted of Oleum Ricini loz. statim, and Lotio Calaminae applied twice a day to allay the eruption. Patients bowels moved freely three times on 21st. and evening temperature

was normal. On the following evening 22nd. April the eruption had completely disappeared. Temperature and pulse were normal, there were no symptoms, and patient was discharged to duty. This case reported again after the period noted but was not put off duty. It was ultimately discovered by a process of exclusion that the ship's bread was acting as the poison to this individual and when he did not partake of it the urticarial spots ceased to appear. Ship's biscuit was substituted in lieu thereof.

URTICARIA PAPULOSA.

L. H. W aet 18,

Ordinary Seaman. R.N.V.R.

This man reported on the evening of 27th. December complaining of a rash on his body. He had observed spots on his wrists two days previously. There was a bright red rash consisting of numerous papules rather larger than a pin's head. The rash faded on pressure but could be felt to be distinctly raised. It covered about two thirds of chest, abdomen, back, arms and thighs. Extensor and flexor surfaces were equally affected. In addition to the papules, there was an irregular hyperaemia of the skin giving a mottled appearance to the rash. There were a few spots on the face. There was no sore throat, nausea, or vomiting. Temperature was 98.4, pulse 80, and the patient

felt perfectly fit. A provisional diagnosis of urticaria was made but the patient was isolated and his belongings disinfected. He was put to bed and given Ol Ricini loz. The patient had been on tinned meat for several days. On 28th. December Temperatur 98.4, pulse 80. Bowels had moved twice freely. The papules were more raised and had become pale in the centre rendering the general appearance of the rash less red. Patient remained in bed and was put on milk diet. He felt quite well. On 29th. December the rash had disappeared and only a faint flush remained. Temperature and Pulse normal. Patient felt well; was allowed up but kept off duty. On 30th. December all trace of rash had disappeared and patient returned to duty.

(10). Dyspepsia and Dilatatio Ventriculi.

T. J. F. aet 37.

Engineer Lieutenant Commander. Royal Navy.

This Officer had already been off duty for eleven days, with dyspepsia and gastritis when I took charge of his case on my return from three weeks absence in hospital.

On November 5th I found him complaining of abdominal discomfort which was increased after a meal. Flatulence was very marked about two hours after meals.

The patient complained of loss of weight and strength, and gave a history of indigestion of about sixteen months duration. The patient was pale and depressed; temperature and pulse were normal throughout. The bowels were costive and a motion could not be obtained except by the use of laxatives.

There was no history of melaena or vomiting of blood.

The patient only vomited when sea-sick. The stomach was found to be somewhat enlarged, but was very variable in size.

Splashing could be elicited at times, and borborygmi were often heard. The stomach was washed out daily before the largest meal of the day, with dilute warm sodii bicarb. Sour yellowish fluid was thus obtained with small remains of the previous meal. Starchy foods and liquids were restricted and the bowels were regulated with cascara and salines.

A mixture of Tr. Nuc. Vom. Acid Carbol. Tr. Rhei Co. and

Tr. Capsii, was given. Improvement followed, the patient was allowed to stay up all day, and the fluid obtained by gastric lavage became almost clear. Flatulence became ~~only~~ only occasional but the stomach remained enlarged.

A boil which developed in the left anticubital fossa was fomented, and recovered. The patient gained strength, and was able to return to duty on November 9th.

This patient is still troubled occasionally with dyspepsia.

(16) Neurasthenia.

R.C.C, aet 24

Lieutenant, Royal Navy.

This Officer had been under my observation ever since he joined this Ship on 28th. August, 1918, and I noticed that his neurasthenic condition, moderate to begin with, had become progressively worse.

He was sick with neurasthenia in the Royal Naval Hospital, Granton, for two weeks in April, 1918, and was subsequently given $3\frac{1}{2}$ weeks sick leave.

The patient was practically a teetotaler. There was no venereal history, and no nervous family history has been elicited.

The patient complained of "feeling all on edge" and of being especially nervous and excited when navigating.

He became frequently depressed, and lacked confidence, and was occasionally irritable. There was fear of responsibility and great hesitation on a decision of any course of action. An over-active imagination suggests to him innumerable dangers.

His mental condition was well demonstrated by his behaviour when playing Bridge, when his excitement over the issue of the game was pronounced. When dummy, he left his chair about eight times in a hand to go round and inspect his partners' and opponents' hands.

There were no hallucinations or delusions.

He occasionally suffered from headaches, and was very restless. There was marked tremour of the hands, palpitation and blushing were common. The knee jerks were exaggerated, and there was marked throbbing of the abdominal aorta.

The circulatory system appeared normal on examination, but the heart was excitable. On the night of November 24th. the patient fainted, but recovered rapidly under immediate treatment. Nothing abnormal was found in respiratory system. The alimentary system was excitable. The bowels moved thrice daily. The appetite was good - almost excessive. The patient ate rapidly with little mastication.

This Officer was discharged to Royal Naval Hospital, Granton, on November 25th. with a recommendation for survey.

(12) DERMATITIS .

G. H. V. aet, 37,

Mechanician.

This man reported on the 22nd. July, ¹⁹¹⁷ complaining of pain and tenderness of front of legs and feet. There was marked hyperaemia, heat, and pitting on pressure of ^T anterior aspects of both feet and legs up to the level of the calf. A history of prolonged exposure to the sun two days previously was elicited and a diagnosis of dermatitis of sunburn made. The patient was instructed to lie down with feet elevated and was put off duty. The bowels were free. On the following day there was no improvement. Treatment by rest was repeated. He returned to duty on the 25th. July. The curious point about this case is that although the patient was bathing and nearly all the body was exposed, these were the only parts affected.

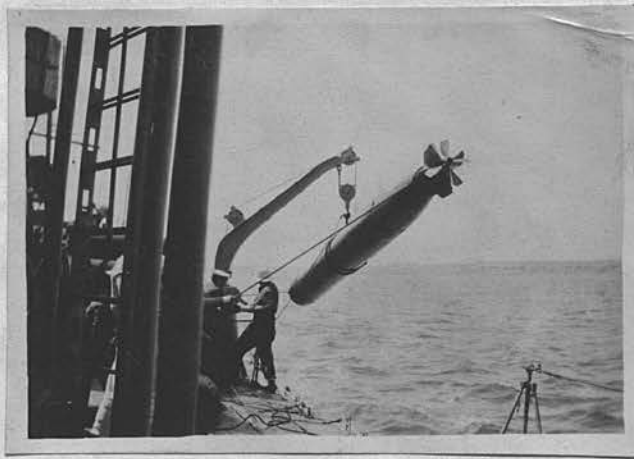
MEDICAL EXPERIENCE GAINED AND NAVAL MEDICAL EDUCATION.

The medical experience gained affords in variety what it lacks in quantity. The curious circumstances in which cases are often encountered tend to develop a capacity for making the most out of little material and convenience. One has to attend cases often at sea, and to a landsman the fore-castle of a Destroyer doing twenty knots head on to a heavy sea, or perhaps worse still, with the sea on the beam, is not the place where he would of his own choice elect to put in sutures or feel a pulse.

Besides work on board, one has often to attend cases ashore. I have, ^{as a Surgeon Probationer} attended the black wife of a Lighthouse-Keeper in a small Island off Brazil, and I have attended sick sailors in Alexandria, and in the narrow side streets of Malta. In the Baltic expedition, the object of which was to aid the Baltic States against the Bolsheviks, H.M.S. Valkyrie was Flotilla Leader for nine Destroyers and our 1st Lieutenant was in charge of the Flotilla landing party. I organised the medical landing party, taking three Surgeon Probationers with me to assist, and a stretcher party from each ship. Street fighting was being prepared for by the combatant party, and medical arrangements were made as complete as possible. We did indeed see street fighting in Riga on 2nd. January, 1919, but took little part in it, suffering no casualties. We had to

evacuate Riga that evening, the town falling to the .
 attack of the Red Army. I have also attended refugees at
 Yalta in the Crimea which was lost to the Bolsheviks in
 April, 1919.

Our One perforce learns adaptability to all sorts of conditions
 of work. Transport of cases by boat is frequently required,
 and this has to be superintended. Cot cases leaving or being
 taken on board Destroyers or Leaders can be most conveniently
 lowered or hoisted by the Torpedo davit, a small crane worked
 by hand which is used for hoisting Torpedoes after a practice
 run.



H.M.S. Stuart. Off Malta 3rd. June, 1919.

Torpedo being hoisted on board after practice run.

Cot cases can be lowered and hoisted by the same method.

- - - - -

- - - - -

- - -

Although a variety of interesting experiences~~is~~ obtained, the actual medical experience is small. Taking the percentage of sick daily on board as $\frac{9}{100}$ % this means that the Medical Officer of the Destroyer has an average of one patient under his care at a time. He has no microscope to aid his investigations as these are not issued to craft below light cruiser complement. I confess that my criticism is based upon a period when one saw only the worst side of medical educative opportunity in the Navy. This was pointed out to me at the Admiralty when, on demobilisation, I was asked my opinion of the Naval Medical Service. I said that the life was healthy and enjoyable, but that service afloat was incompatible with progress in Medicine. The newly qualified man on joining the Navy during the War spent a few weeks at a Naval Hospital, and then went to sea for an average period of about two years, when if fortunate, he obtained a post in Hospital for a few months before going to sea again. Two years of attendance on one or two patients a day, and of living in the cheerful and boisterous atmosphere of a Naval mess at sea are conducive rather to deterioration than progress in Medicine. Yet it is, I understand, the procedure also in Peace time that the newly joined Surgeon is sent to sea early.

I would advocate that the newly joined Surgeon be kept a year in Hospital and then be required to pass an examination of the same standard as the university Final Qualifying examination at Edinburgh, The penalty of failure being, not

retention in Hospital, but loss of Seniority. A competitive system would be arranged whereby coveted appointments would be allocated to the best men. This would stimulate progress, and would send Officers to sea with some experience to support their book lore. Medical Officers should be similarly encouraged to enter for higher degrees such as F.R.C.P and F.R.C.S.

Opportunities already exist in Naval Hospitals for progress. They possess good libraries and excellent clinical material. The younger men ought to be encouraged to take part in pathological and bacteriological work.

In civilian practice, the fittest survives. In the Navy, one is automatically promoted so that there is not the same stimulus. But opportunities for progress will not be taken advantage of as long as merit takes so small a part in advancement.

SUMMARY. A summary of a mass of information so heterogeneous is difficult to compose. Briefly, I suggest a few improvements in Medical Stores, viz:- Larger sterilizer and rubber gloves. As regards the ships, I would wish to see improved ventilation of mess decks or more use of means already supplied, and better sanitary accommodation aft in Half Leaders of the „V. Class with the flushing tank more protected from frost; I strongly urge the retention in Hospital in peace time of the young Surgeon Lieutenant for one year after entering if newly qualified, and the introduction of a competitive system of promotion for Medical Officers of junior ranks.

The clinical reports of cases encountered, and the account of duties give an idea of the scope for work which the Destroyer Medical Officer enjoys. This is of interesting variety, but my statistics show that during the time I spent in Flotilla Leaders, I had under treatment, the small average of one sick man per day.

A concise summary is provided by the Index at the beginning of this manuscript.

